

first person who in discourses on the muscles demonstrated their uses and power by geometrical and mechanical illustrations. He is represented "dressed in the red gown, hood, and cap of a doctor of physic in the act of lecturing, with one hand on his breast, the other a little stretched out. On the left is another figure, Mr. Alderman Arnis, dressed in the livery gown, holding up the arm of a dead subject, which is placed upon a table and

partly covered with a sheet, the sternum, or that part of the breast where the ribs meet, being naked and laid bare, so that the pectoral muscles are seen." Under the picture is an inscription in Latin which was composed by Dr. Thomas Arnis, M.P. for St. Albans in 1661, and son to Mr. Alderman Arnis, the latter of whom bequeathed the sum of 510*l.* for founding the muscular lecture in the hall.

II.



[The engraving on the other side represents the entrance in Monkwell-street to the court-yard in which the Barber-Surgeons Hall stands. The arms of the company are protected by a semicircular canopy supported on carved consoles, which serves likewise to protect from the rain those who may be waiting for admittance. Under the arms is the date 1671, with the words *De Præscientia Dei*. The foliage on the lintel, represented at large by the annexed engraving, is well carved. A gateway of similar character may be seen at the entrance to New-inn, Wyche-street, Strand, but there the canopy is concave inside, and is ornamented simply with foliage, and a shield on the face of it.

Monkwell-street and its immediate neighbourhood present a very different appearance from the more frequented parts of the city, although, immediately adjacent, and serve to

induce in the contemplative mind many recollections of old London. The name of the street itself records the well belonging to a hermitage originally on the site. Nearly opposite to the hall are twelve almshouses founded in 1578 by Sir Ambrose Nicholas, and rebuilt shortly after the great fire. And at the north end of the street are "Lamb's Chapel" and Almshouses, originally the Hermitage of St. James-on-the-Wall, above referred to. Then you see written, "Aldermanbury Postern Chapel," and in another direction the "Barbican." On coming suddenly on St. Giles's Church, Cripplegate, you remember that immortal John Milton lies buried there, and wander on full of pleasant thoughts and associations, till you come to Grub-street, and so have your ideas diverted into another course.—Ed.]

\* Malcolm's "Londinium Redivivum," vol. II.

#### SCAGLIOLA, OR THE ART OF IMITATING MARBLE.

THE art of manufacturing scagliola, or imitation-marble, was well known to the ancients; although chiefly confined to the pure white or *marbrum album opus*, and *albustum opus*, mentioned by Pliny, and of which the statues, busts, basso-relievs, and other ornaments of architecture were composed. The Egyptians employed in coating the walls of the tombs, and forming the ground-work of their paintings, also partake of the character of marble. In modern times the art of imitating marble has been carried to a far higher state of perfection, particularly in Italy, and some parts of France and Germany; and the imitations of many of the precious marbles, such as *onyx*, *broccatello*, *jasper*, *porphyry*, *verde antique*, &c. exhibit an astonishing degree of beauty of perfection and finish. In England this art is comparatively unknown; having almost sunk into disuse in consequence of the perishable nature of the material, its insecurity when employed as pillars having to bear a heavy super-incumbent weight, its liability to damage, ready absorption of damp, and its expense, which, although trifling when compared to marble, is still much higher than is warranted by the nature of the material.

It is evident that this truly beautiful art is open to great improvement, and experience tells us there is something wanting beyond that of mere skillful imitation and beauty of finish, for after all it is simply lath and plaster with an exterior coating, rather harder, it is true; than the best, but still incapable of resisting the influence of moisture or the slightest external violence. By the present imperfect process the plaster of scagliola work is produced by applying a pap of finely-ground calcined gypsum, mixed with a weak solution of Flanders glue upon any figure formed of lath nailed together, or occasionally upon brickwork, and bestudding its surface while soft with splinters of spar, marble, granite, bits of concrete, coloured gypsum, or veins of clay in a semi-fluid state. The substances employed to colour the spots and patches are the several ochres, boles, *terra di sienna*, chrome yellow, &c. The surface of the column is tamed smooth with a lathe, polished with stones of different degrees, and finished with some plaster pap to give it lustre. Pillasters and other flat surfaces are smoothed by a carpenter's plane with the chisel finely serrated,

and afterwards polished with plaster by friction.

By the above-process the scagliola manufacturer, with a vast deal of labour employed in the final polishing, is enabled to turn out pillars and pilasters of great magnitude and beauty of polish; but the glue which is the cause of the gloss, is also a cause of its subsequent dullness and decay when it becomes exposed to moisture and damp air. Again, by employing plaster of Paris alone the manufacturer is subject to great loss by waste of material, in consequence of its setting too rapidly, or of the coagulating property of the burnt alabaster being very much impaired or lost by the powder being kept too long, especially if in the open air, before it is made use of, for when it has once been suffered to grow hard, it is no longer serviceable, nor can it be made so, by any known process of burning.

The first and most important step towards improving the art, so as to ensure durability, is by employing more substantial materials in the body or ground-work than are at present used. The second consideration is to substitute a cement of mixed qualities instead of pure plaster of Paris or burnt alabaster, so as to ensure the requisite strength and density of the material, and to enable the artist to finish off the polishing without the use of glue or any other substance which has the property to absorb, and thereby cause the rapid decay of the work; greater hardness is also essentially requisite to avoid moisture, the chipping, indentations, and scratches to which it is now so very liable.

For pillars of magnitude, pedestals and pilasters, a core of rough brickwork might be used to great advantage instead of the present lath and plaster, the bricks being cemented together, and roughly covered in by one of the cheap durable cements commonly in use, or by a mixture of lime, oxide of iron, and manganese, similar to Parker's cement, which has the effect of setting rapidly even under water. Mortar made with about five parts of flint powder, one of shell-lime and the necessary quantity of lime-water and molasses, well triturated together, will make an exceedingly fine and durable base on which to dispose the colours, and if properly used and followed up with an outer coating composed of fine shell-lime, flint powder, milk, and eggs, will assume the hardness and capability of polish of marble. The room in which these works are carried on should be kept at a warm tem-

perature, and great care should be taken under all processes of scagliola work to exclude the atmospheric air as much as possible, also that the stucco should be free from saline impurities, contain some cohering body, and be capable of acquiring hardness gradually until it become of stone-like quality.

The art of making plasters of mixed qualities, to be employed in modelling statues, busts, and other works of architecture, instead of using pure plaster of Paris, is unknown to us. The Romans paid great attention to these matters, and the ancient plastering preserved to this time, where it has not met with violent blows or injuries from accidents, is still as firm and solid, as free from cracks or crevices, and as smooth and polished on the surface as if made of marble; the bottoms and sides of their aqueducts were made of plaster, which has endured many ages without decay. Again, the roofs of houses and the floors of rooms at Venice are covered with a sort of plaster, made at later date, and yet strong enough to endure the sun and weather for several ages without spoiling or cracking, and without much injury from the feet. But the greatest attention perhaps is paid to this subject by the natives of the East Indies, who, for their finer cements, which are capable of receiving a most exquisite polish, use ghee (butter in its oily state), oils, jaggery, and other to us expensive ingredients. At Madras fifteen bushels of pit sand well sifted are added to fifteen bushels of stone lime; this is slaked in the common manner, and so laid two or three days together. Twenty pounds of coarse sugar or molasses is dissolved in water, and the mortar is sprinkled with the liquor, which is then beat up together and well incorporated, and afterwards let to lie in a heap. A peck of *gram* (similar in nature to our coarse gray pea) is then boiled to a jelly, and the liquor strained and preserved. A peck of *mirabilans* is also boiled, and the liquor set aside; the three waters are then added together. The mortar beaten up, and, when too dry, sprinkled with this liquor, proves remarkably good for laying bricks or stone, keeping some of the liquor always at hand for the workman to wet his bricks with. For very strong work, tow is incorporated with the mortar. Of this the natives make many architectural ornaments, such as columns, arched work and imagery, besides using it for common building purposes. For finer works, to every half bushel the white of five or six eggs and four ounces of ghee, or ordinary salted butter, and a pint of butter-milk beaten all well together; mix a little of the mortar with this, till the ghee, butter-milk, and white of eggs be soaked up; then soften the rest well with plain fresh water, and so mix all together, and let it be ground, a trowel-full at a time, on a stone with a stone roller. When you use it, in case it be too dry, moisten it with some water, or the before-mentioned liquors. This is for the second coat of plastering.

When the first coat of plastering is laid on, let it be well rubbed with a hardening trowel, or with a smooth brick, and strewed with a gritty sand, moistened, as occasion requires, with water, or the before-mentioned liquor, and then well hardened again; when half dry, take the last-mentioned composition for the fine plastering; and, when it is almost dry, lay on the whitening varnish; but, if the work should be quite dry, then the chunam liquor must be washed over with a brush.

The best sort of whitening varnish is made thus:—take one gallon of toddy (the juice of a tree), a pint of butter-milk, and as much fine shell-lime as shall be proper to colour it; add to it some of the chunam liquor, wash the plastering gently over with this, and when it is quite dried in, do the same again. A plaster thus made is more durable than some soft stone, and stands the weather better in India than any of the bricks they make there. Butter-milk is always added to the outer coating. There are several varieties of cements of durable quality, and capable of receiving a fine polish.

I have been thus particular in describing one of the Indian methods because the cement so made is vastly preferable in every respect to the plaster of Paris used in the process of scagliola work, and also for making large capitals to imitate marble, which, however, beautifully executed, soon lose their polish, and are liable to be injured past the power